REMARKS/ARGUMENTS

Claims 1-3 and 34 are pending herein. Claim 1 has been amended hereby to clarify that the laminated sintered body comprises, at least in part, a planar, self-supporting ceramic substrate for a planar solid oxide fuel cell consisting of a ceramic porous body. Applicants respectfully submit that support for rewritten claim 1 can be found, for example, in paragraphs [0002], [0020] of the substitute specification filed on December 2, 2005, and in Figs. 1-7 and 10, and that no new matter has been added.

Applicants appreciate the PTO indicating that claim 34 is allowed. Applicants respectfully submit that in addition to claim 34, all claims pending herein are in condition for allowance, and respectfully request that the PTO issue a Notice of Allowance for this application in due course.

Claims 1-3 were rejected under §103(a) over JP '913 in view of Tanneberger and further in view of Ruka. To the extent that the PTO might attempt to assert this rejection against rewritten claim 1 submitted above, it is respectfully traversed.

Independent claim 1 recites an electrochemical cell comprising a laminated sintered body having a helium leakage rate of 10^{-6} $Pa{\cdot}m^3/s$ or lower. The laminated sintered body comprises a planar self-supporting ceramic substrate for a planar solid oxide fuel cell consisting of a ceramic porous body having a thickness of 300 μm or larger and comprises one of an anode and a cathode. The ceramic porous body comprises a material selected from the group consisting of a lanthanum-containing perovskite-type complex oxide, platinum-zirconia cermet, palladium-zirconia cermet, ruthenium-zirconia cermet, nickel-zirconia cermet, platinum-cerium oxide cermet, palladium-cerium oxide cermet, ruthenium-cerium oxide cermet and nickel-cerium oxide cermet. The laminated sintered body also includes a single ceramic dense body having a thickness of 25 μm or smaller directly laminated to contact an entire main surface of the ceramic substrate and comprising a material selected from the group consisting of yttria-stabilized zirconia, yttria partially-stabilized zirconia and cerium

oxide, and a single electrode layer comprising the other one of the anode and the cathode directly laminated on the ceramic dense body of the laminated sintered body so that the ceramic dense body contacts an entire main surface of the electrode layer. The electrode layer comprises a material selected from the group consisting of a lanthanum-containing perovskite-type complex oxide, platinum-zirconia cermet, palladium-zirconia cermet, ruthenium-zirconia cermet, nickel-zirconia cermet, platinum-cerium oxide cermet, palladium-cerium oxide cermet, ruthenium-cerium oxide cermet and nickel-cerium oxide cermet.

As explained above, rewritten independent claim 1 now recites that the laminated sintered body includes, among other things, a planar, self-supporting ceramic substrate for a planar solid oxide fuel cell (SOFC) consisting of a porous ceramic body. On the other hand, JP '913 specifically relates to an SOFC having a completely different, non-planar structure. Applicants respectfully submit that one skilled in the art would understand the clear differences between the two distinct types of SOFC structures, and would know that to change the cylindrical substrate of JP '913 to a planar substrate would alter the basic nature and fundamental design of the tubular type SOFC according to JP '913. That is, as explained in paragraphs (0012), (0013) and (0016) of the English translation of JP '913 and as shown in Figs. 1 and 2, the porous tublar substrate 22, which defines the air electrode 23, and the dense interconnector 24 are integrally molded and then sintered to produce an integrated self-supporting body. The dense solid electrolyte layer 25 is then sintered on the tublar substrate 22 (air electrode 23). Applicants respectfully submit that one skilled in the art understands that the combination of the dense solid electrolyte layer 25 and the dense interconnector 24 is indispensible with respect to providing air-tight sealing structure dividing air and fuel as needed in the context of JP '913.

Even if, *arguendo*, Figs. 1 and 2 of JP '913 could somehow be interpreted as showing that the entire main face of each of the electrodes 23 and 26 is contacted by the electrolyte layer 25, Applicants respectfully submit that JP '913 still fails to meet each and every claim limitation at least because the self-supporting substrate 22 (air

electrode 23) is clearly a tublar substrate, not a planar self-supporting ceramic substrate for a planar type SOFC, as now claimed.

Moreover, Applicants respectfully submit that in the case where the entire main face of the tublar substrate 22 (air electrode 23) could be contacted by the electrolyte layer 25, the dense interconnector 24 is necessarily integrated, or monolithically sintered, for example, with the tublar substrate 22 (air electrode 23) to define the overall integrated, self-supporting substrate. As such, the integrated substrate comprises more than a porous ceramic body, because the dense interconnector is integrated therewith. Applicants respectfully submit that the integrated tublar substrate, therefore, does not "consist of" a porous ceramic body, as claimed.

One skilled in the art would have understood that if the interconnector 24 were not integrated to be integrally present, the air electrode 23 would instead constitute a tube 13, as shown in Fig. 5 of JP '913, for example, and the electrolyte layer could then arguably cover the entire main face of the tublar substrate. Applicants respectfully submit, however, that it would have been equally clear to one skilled in the art that, in that case, the resultant structure would not have afforded any room for forming the interconnector 16, which is essential to proper operation, and it would therefore be impossible to draw current from the resultant cell.

As mentioned above, the embodiment shown in Figs. 5-6 and described in paragraph (0004) of JP '913 also includes a self-supporting porous, but tublar substrate (air electrode 13). Applicants respectfully submit that when the tublar substrate in JP '913 is made of a porous ceramic material in this manner, the dense interconnector 16 is not integrated, but instead, the dense interconnector and the electrolyte layer 15 are necessarily formed on the tublar substrate 13 in order to obtain the critical air-tightness. Applicants respectfully submit, however, that in this case it is clear that the entire main face of the self-supporting substrate (air electrode 13) is not contacted by the electrolyte layer 15, as claimed. Again, to modify the structure in JP '913 to meet the limitations in the pending claims would render the resultant structure useless as an SOFC.

Applicants respectfully submit that it is clear from the foregoing that JP '913 fails to disclose or suggest an SOFC including each and every structural feature recited in independent claim 1. Tanneberger and Ruka simply do not overcome the above-mentioned deficiencies of JP '913. In view of the above, Applicants respectfully submit that independent claim 1, and all claims depending directly or indirectly therefrom, define patentable subject matter over the prior art of record, and respectfully request that the above rejection be reconsidered and withdrawn.

Applicants respectfully request that the PTO acknowledge receipt and consideration of the references filed with the Information Disclosure Statement filed on September 19, 2007.

If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

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Date

Stephen P. Burr
Reg. No. 32,970

Nicole J. Buckner
Reg. No. 51,508

SPB/NB/cmb

BURR & BROWN
P.O. Box 7068
Syracuse, NY 13261-7068

Customer No.: 025191
Telephone: (315) 233-8300
Facsimile: (315) 233-8320